



# Monitoring

## What is it?

Monitoring is the collection of scientific data at specified intervals from a network of sites in order to answer assessment questions such as:

- What is the overall quality of California's surface waters?
- What is the pace and direction of change in surface water quality over time?
- Which water bodies have water quality problems and which areas are at risk?
- What are the causes of water quality problems and where are the sources of those stressors?
- How effective are water quality improvement projects and programs at protecting or restoring beneficial uses?

SWAMP monitoring activities include the design of monitoring programs, including survey schedules, site networks, measurement indicators, and statistical methods to best characterize resource condition; field observation and field sample collection; laboratory analyses of field samples; and retrieval and organization of relevant ancillary data (flow, land use, etc.) available from other sources. The resulting data are then evaluated or assessed to provide information for resource management. Prior to the start of a monitoring project, a Monitoring Plan and Quality Assurance Project Plan must be developed and approved. These documents also receive external peer review by known experts. The statewide and regional monitoring projects are collaborative efforts receiving financial support from SWAMP as well as one or more of our valued partners. Many of the monitoring efforts span multiple years.

## Why is SWAMP monitoring data important to the State?

SWAMP monitoring programs address information needs at both the statewide and regional levels. SWAMP encourages data sharing, consolidation, and comparability by providing disparate projects and partner agencies with program-compatible database formats, management guidelines,

and quality systems. Data collected by and for SWAMP are then used to conduct regional and statewide assessments. Statewide monitoring and assessments provide information on the status and trends of California waters to guide decisions made by the Legislature and State Environmental and Resource agencies. Regional monitoring and assessment provides rapid feedback for problem management, information to determine the causes and sources of impairments, identification of emerging threats, and evaluation of management effectiveness.

Why is SWAMP monitoring important to me?

Healthy streams, rivers, lakes, bays, estuaries and coastal waters support aquatic life in many ways. They provide spawning grounds, food and shelter for fish, birds, and other wildlife. Impairment of water quality reduces the ability of a waterbody to provide these functions that we enjoy. Monitoring provides valuable information on the health of our waters – both on a statewide and local level.

### **How will this information be used?**

Data collected for and by SWAMP provides information that can be used to help answer the assessment questions listed above. It can also be used for making management decisions by recognizing that a water body is not meeting water quality objectives and requiring that actions be taken to protect all the beneficial uses of that waterbody. SWAMP data are used by local agencies for developing permits and by State agencies in the development of fish consumption advisories and safe eating guidelines.